

**METHOD AND APPARATUS FOR REDUCING SPECULAR REFLECTIONS IN
SEMICONDUCTOR LASERS**

ABSTRACT

5 The present invention is directed a method of fabricating a VCSEL. First, a substrate
with a back surface and a front surface is provided. Then, a first reflector, an active region, and
a second reflector are disposed on the front surface. The first reflector is disposed on the front
surface. The active region is interposed between the first reflector and the second reflector.
Then, anti-reflection features are formed into the back surface of the substrate to reduce specular
10 reflection of light into the active region.